

Abstract of Project Report

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QUALIFICATION SOUGHT *BSc. Computer Science (Artificial Intelligence)*

TITLE OF PROJECT REPORT *A Programmable-Logic Based Multiprocessor Engine
for Real-Time Vision Preprocessing*

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ABSTRACT

Computer vision as a research subject is receiving ever growing interest from both academia and industry. Up until now research in the area was limited for several reasons, the main one, and still a big problem, was that the computational power required to perform the algorithms was not available to the majority of researchers. For the majority of applications this is still the case, but as technology has progressed research into computer vision has vastly increased. However there is still a large gap between the algorithms being developed mostly on uni processors and actual applications running in embedded systems.

This project aimed to bridge the gap by providing a flexible platform to test the developed algorithms in real time in an embedded environment. The project has been limited in its extent due to many constraints and as such only attempted to take the design of the system to a point where it was proved to be a working solution in simulation.

This has been achieved for the majority of the system and it has been proved via simulation that the required technology is available to perform such tasks at the performance levels required by such processor intensive tasks.

Further work is required to complete the system although the remaining work should be fairly easy as the core structure and design of the system are already in place.

This project report is in accordance with Examination Regulation 6.5(c).